

# THE WISCONSIN ARCHITECT

THE OFFICIAL PUBLICATION OF THE WISCONSIN ARCHITECTS ASSOCIATION —  
A CHAPTER OF THE AMERICAN INSTITUTE OF ARCHITECTS

VOLUME 22 No. 8

AUGUST 1954

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**THE WISCONSIN ARCHITECT**  
Official Publication  
**WISCONSIN ARCHITECTS ASSOCIATION**

LEIGH HUNT, F.A.I.A., *Editor and Publisher*  
ELIZABETH SCOTT HUNT, *Managing Editor*

Published Monthly

Subscription, \$1.00 per year

Address all communications for publication to Editor

759 N. Milwaukee St., Milwaukee 2

BRoadway 1-1220

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**Walter A. Taylor, A.I.A., on  
Hospital Panel**

WALTER A. Taylor, Director of Education and Research for The American Institute of Architects, was one of the panel contributors at the Conference on Hospital Planning held at the Conrad Hilton Hotel, Chicago, Sunday afternoon, September 12.

Mr. Taylor discussed "Research in Architectural Design" for the opening topic, "Unknowns and the Need for Research."

The conference was jointly sponsored by The American Association of Hospital Consultants. The American Institute of Architects and The American Hospital Association, and was presented especially for persons professionally engaged in hospital planning. A panel of eminent leaders in the field of hospital organization and planning initiated subjects of timely and vital interest.

\* \* \*

**Winning Designs Exhibited**

The 1954 Prize Winning Designs submitted in the Concrete Masonry Home Competition conducted by the Wisconsin Concrete Products Association and sponsored by the Wisconsin Architects Association, were exhibited in the Wisconsin at Work Building at the Wisconsin State Fair.

\* \* \*

**AGC State Convention**

Members of the Wisconsin Architects Association are asked not to specify bid-opening dates falling during the period of November 28 to December 4. This request comes from the General Contractors Association in view of the A.G.C. State Convention which is to be held in Milwaukee at that time.

\* \* \*

**Plan Books**

There have been an unusual number of responses since the piece "Architects' Plan Book Yours For the Asking" appeared in the July issue of the Wisconsin Architect. However, there are still a goodly number of the books on hand. Remember, October 1 is the deadline for picking up the books.



## New Milcor Lok-Rib Building Displayed at State Fair by Inland Steel; A Brief History on the Founding of Milcor

A revolutionary new steel building for farm and industrial use made its first public appearance at the 1954 Wisconsin State Fair. Called the Milcor LOK-RIB Building, it is assembled of one-piece panels which serve as both structural members and exterior sheathing. Announcement of the new product was made by William A. Jahn, President of the Inland Steel Products Company, Milwaukee.

Many advantages are claimed for this building. It has no separate framework and is easily erected. The 32-ft. x 60-ft. building, which is located on the State Fair grounds, was erected in only three days by a few men who had not even seen a picture of it and didn't know what to do until they were called to the site.

Only one size of bolt and nut is used throughout the building. The only tools required are a standard wrench and a drift pin.

Amazing strength is claimed for this building. Tests which have been conducted indicate the strength far exceeds normal code requirements for wind and snow loads. The building's strength results from a carefully engineered V-type rib, which forms a box girder when adjacent plates are assembled. The V-rib is so corrugated that one rib locks into the other and holds it in place. The specially designed rib eliminates shear on the bolts and assists materially in the ease of erection. The ribs are of such strength that windows or ventilators can be placed between them without weakening the structure.

Production facilities at the Inland Steel Products Company plant in Milwaukee, Wisconsin have been

completed so that the Milcor LOK-RIB Buildings will initially be available in the Arch Profile style in four widths: 24, 32, 40 and 48 feet. The building can be purchased in any length desired. The company has a selection of 18 standard end walls to fit these buildings. They also have available accessories, including fixed or top hinged windows, gravity and spinner ventilators, louvers, service doors, and double slide doors.

One of the other great advantages of the building is the fact that it is demountable. Disassembling by removing the nuts and bolts is just as simple as the original erection.

In addition to its other advantages, Mr. Jahn pointed out that the building will be available at an amazingly low price. The price to the consumer is approximately \$1.25 per square foot of floor area, exclusive of freight, foundation, floor, erection, and electrical or mechanical installation. In view of the fact that the purchaser can erect the building himself by following simple directions, the low first cost is further emphasized.

While the buildings will be available initially in the four sizes mentioned above, it is planned to further develop the structure. The present suggested uses of the Milcor LOK-RIB Building are for primary shelter requirements in farm and commercial operations. Future plans call for adaptation to specialized uses on the farm and in industry.

The buildings will be sold through direct sales offices and authorized distributors who are franchised to sell on an exclusive basis in assigned territories.



Distributors are now being selected in key locations throughout the nation.

The company's half-century of business with the building industry goes back to its beginnings as the Milwaukee Corrugating Company in 1902, when it specialized in corrugated metal roofing, siding and ornamental ceilings. Now Milcor products range from tool racks and pick-up carts to a complete line of steel building materials.

From the one small Milwaukee factory of 1902, the company has grown into an organization of three plants, five branch warehouses, and 11 sales offices in major United States cities. Since 1936 it has been a wholly-owned subsidiary of Inland Steel Company, Chicago.

Unchanged through the years, however, has been the firm's principal brand name "Milcor" — derived from Milwaukee Corrugating Company. Since the early days, it has been used to identify most of the company's products and, from 1930 to 1948, even appeared in the corporation's official title when it was known as Milcor Steel Company. Today, under the Inland Steel banner, the name Milcor exclusively identifies all the company's products.

Founders of the original company in 1902 were Louis Kuehn, successful sheet metal fabricator from La Crosse, Wisconsin; Fred and B. C. Pritzlaff, Milwaukee hardware men, and August J. Luedke, also of Milwaukee. Kuehn served as president of the company until 1938, was chairman of the board of directors until his retirement in 1940. A. J. Luedke was secretary and treasurer until 1938.

Early establishing a reputation for quality and reliability, the new company grew rapidly. Its first branch was opened in 1907 in Kansas City, Missouri. By 1913 business warranted the construction of a new Milwaukee factory on the site of the present plant at

4157 W. Burnham Street. Its floor space was doubled by additional building in 1919.

Another branch was opened in La Crosse, Wisconsin, in 1922 and in 1925 a new plant was built in Chicago.

A major step in the company's progress was the purchase in 1928 of the Eller Manufacturing Company of Canton, Ohio. This plant almost duplicated the facilities of the Milwaukee factory and permitted the opening of sales territories in the eastern markets.

Further purchases in 1923 of departments of the Lamneck Products Company of Columbus, Ohio, and the Richsto Metal Trim Company of Aurora, Illinois, added new products to the Milcor line. In 1938 a warehouse was opened in Rochester, N. Y., to better serve the East and in 1945 the construction of a complete, modern factory in Baltimore, Maryland, was finished.

The company's largest single expansion, however, took place in 1945 with the purchase of the J.M. & L.A. Osborn Company of Cleveland, Ohio. This transaction involved a plant in Cleveland and three branch warehouses in Buffalo, N. Y., Cincinnati, Ohio, and Detroit, Michigan. To absorb these facilities, the Canton operations were moved to the new Cleveland plant and the Rochester branch activities were moved to the new Buffalo warehouse.

At the same time, on a smaller scale, a move was made into the far western market with the opening of a Los Angeles branch warehouse. Better service was also extended to southern markets with the opening in 1948 of the St. Louis branch warehouse.

In its fiftieth year, the company re-affirmed its faith in the future and built a \$2½ million addition to its Milwaukee plant, increasing its floor space by 40% and making possible a complete revamping of the production operations. Since that time, continual progress has been made in the improvement of existing products and the development of new ones.



## The Far East Society of Architects, Tokyo, Japan

VERY interesting reading matter is found in the FESA News Letter published by the Far East Society of Architects in Tokyo, Japan.

The June issue, recently received, covers in part the Society's May meeting having as its subject "Nikkatsu International Building Program." And there's "The President's Corner" with President Nathan Harris giving forth with his views on Modern Architecture.

In listing the various schools of Architectural thought and concepts developed throughout the world, President Harris says how fortunate we are that so many men of genius exist today, but adds, "I pray you do not misunderstand me. While I admire and salute these men, unfortunately, I can not always agree with them."

### EXCERPTS FROM LETTER

Every period of recorded civilization has had its upsurge of modern architecture, paced by the discovery and development of new materials, new methods of construction, changes in political and social concepts, economic conditions, and new living and working conditions and requirements.

Many types of architecture have been created over the centuries keyed to the geographical location, terrain, climatic, economic, social, and political conditions prevailing. These are all exemplified in the styles of the past; Egyptian, Mesopotamian, Babylonian-Assyrian, Persian, Aegean (Cretan), Greek, Roman, Saracenic, Byzantine, Early Christian, Romanesque, Medieval Italian, Medieval French, Gothic, Florence (Renaissance), Baroque, the Architecture of India, China, and Japan, and Classical Revival. Each one of these met the values and functions of its time. All this was good for it presented a challenge to the creative spirit of the architect and revitalized architecture, making it a living, breathing art.

Today's modern architecture has taken its place in this continuing process of evolution, and, in turn, will be followed by many other types of architecture not as yet conceived.

As long as we architects remember that good taste is a fundamental attribute of good architecture, and that each of us on earth is an individual with a right to determine his own requirements (as long as he does not infringe on the requirements of the society, or community in which he lives), we have the right and privilege to create buildings and projects in any manner our judgment dictates. This would indeed, be a drab and uninteresting world, if we all liked and desired the same things. Individuality and romance in architecture is very important and cannot be ignored, especially when one travels from his homeland; he expects to encounter new concepts of life, new scenery, new customs, a difference in environment, and not a replica of his own home town.

### THE MEETING

The Society was treated to one of the finest and most informative programs to date at its last regular meeting held at the Shiba Park Hotel on the 11th of May. Honouring us as our guest speakers were the distinguished gentlemen: Dr. John K. Minami, Professor of Structural Engineering at Waseda University; Dr. Tachu Naito, also Professor of Structural Engineering at Waseda University, and Tsugio Ohuchi, originator of the caisson principle employed in the construction of the now famous Nikkatsu Building, and a Director and Chief Engineer of the Takenaka Construction Company.

Mr. Ohuchi was first introduced and spoke in Japanese as did Dr. Naito, the next speaker, for the benefit of our Japanese members and guests. Dr. Minami followed, speaking in English. Their fine talks were followed by an excellently presented documentary film, narrated in English with Japanese subtitles, of the complete planning and construction of the Nikkatsu International Building of Tokyo.

Erection of the Nikkatsu International Building in Tokyo by the open caisson method during the past year has been followed closely not only by construction men but also by the public, which has taken a keen interest in the daily progress recorded on the outside display board. Located at the principal downtown intersection in Tokyo, only 100 yd. from Gen. Mark Clark's then headquarters, the below sea-level excavation has been visited frequently by Army and Air Force engineers. Some of them have joined the sidewalk superintendents who have kept track of the sinking by affixing their marks on the outside wall of the five-million dollar structure.

The Nikkatsu Building occupies an entire block which has the shape of a blunted right triangle, the legs measuring 220 and 325 feet. The ground area is 43,000 sq. ft., approximately one acre. The building has four basement stories, nine stories above ground plus a three story penthouse, and a total floor area of about 520,000 sq. ft. The first basement is a shopping arcade, and the three stories below it are a garage accommodating 200 cars. The first floor is designed for a bank and an airline office, the second through fifth floors for offices, and the sixth through ninth floors for a hotel.

### Substructure Forms Caisson

In the caisson method the substructure is constructed as a unit above ground, then sunk into place by excavating beneath it. Time can be saved by this method because it is not necessary to await the completion of excavation and the preparation of foundations before beginning erection of the superstructure, which can be added while the substructure is sinking. Another advantage is the elimination of the noise and vibration of driving sheetpiling around the



perimeter of the building site. Interference with adjacent sidewalks and streets during construction is minimized even though the building fully occupies its lot. Little or no damage is occasioned to nearby structures. Excavation is somewhat slower because it must be carefully controlled. In Japan excavation is done by hand, but mechanization is possible.

The method is suited to the emplacement of substructures in areas underlain by unconsolidated materials, such as are found in the bayhead delta of Tokyo, the lake deposits of Chicago, the alluvium of New Orleans, and the marine sediments of Houston. Since 1938 it has been utilized in Japan in the construction of 18 buildings, of which that here described is the largest.

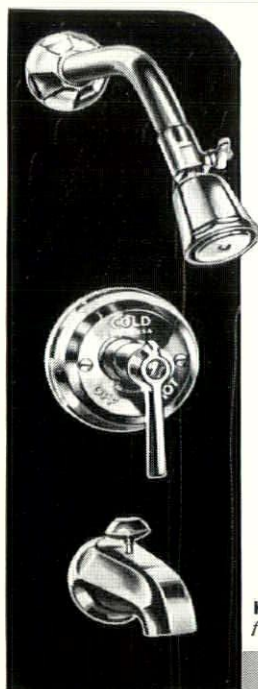
The caisson for the Nikkatsu Building consisted of the upper three basement stories, which were constructed above ground. After concrete was poured around the steel framework, the exterior walls were waterproofed. Foundations for the interior columns and the exterior walls were constructed at the specified depth just before sinking was completed. On completion of sinking, the fourth basement story was finished by converting the lower wall of the caisson

into an exterior wall, thickening the cutting edge to form a foundation, and laying the floor.

The cutting edge beneath the outside wall formed a continuous footing along the perimeter of the building. It was made of concrete with a steel shoe, and extended to a depth of 18 ft. below the floor level of the third basement. It served not only to cut the subsoil, but also as a sheeting to keep the outside soil from sliding inward. In its lower 13 ft. it was designed to taper from a thickness of 4 ft. to a slightly blunt point by a slope on the inner side. As the cutting edge descended, the subsoil beneath the caisson was forced inward while the outside subsoil was left relatively undisturbed.

A protrusion on the inner side of the upper part of the cutting edge rested on unexcavated subsoil and acted as a bearing plate to carry a part of the weight of the caisson. Along side of it, except at the three corners, a supplementary temporary wooden bearing plate was placed.

With a caisson perimeter totaling 960 line ft., the edge and plates would bear a load of 26 tons per running foot if the load were evenly distributed around the perimeter. At the minimum bearing power of the



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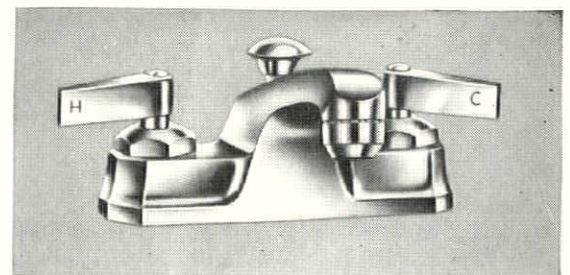
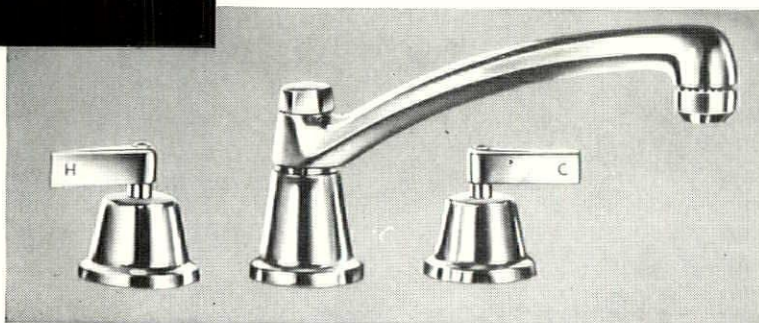
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subsoil, this would require a support width of 30 ft. However, since the side walls were nearer the center of gravity than the corners, they bore a greater weight. Therefore the concrete bearing plate was made wider along the middle of the side walls toward the corners, the width of the wooden plate decreased. As the caisson sank and skin friction on the outside wall increased, the width of the wood plate was twice reduced along its whole length, and, then the cutting edge reached gravel, the wood plate was entirely removed.

After the cutting edge reached the bottom of the clay, it was sunk 2 ft. more in the underlying gravel. This sinking was accomplished by merely digging a trench along the inner side of the cutting edge. Sinking closely followed the excavation in the gravel and was gradual and nearly uniform. The caisson came to its final position on June 17, 1951.

The steel superstructure was erected as the building sank, but concrete for the superstructure was poured after sinking was completed. The building was faced with brick tile. Exterior work was completed

December 20, 1951, and the building was ready for occupancy by March 1952.

This application of the caisson principle was originated by Tsugio Ohuchi, director and chief engineer of the Takenaka Construction Co., which erected the Nikkatsu Building. The method has been patented in Japan, and in the United States in 1941.

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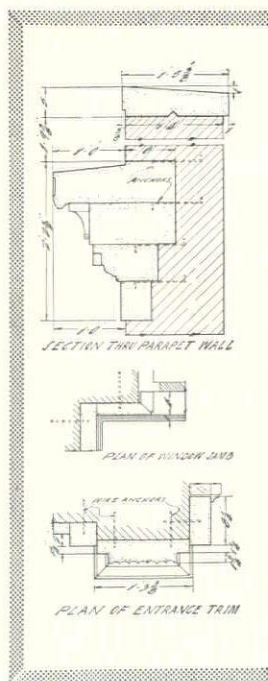
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## Producers' Council Head Hails New Housing Bill But Says It Is Not Substitute Of Selling Construction

Washington, D.C., August 9 — "The American dream of good homes for everyone is much closer to becoming a reality," commented the president of the nation's largest association of building materials manufacturers after President Eisenhower signed the new housing bill.

Producers' Council President Elliott C. "Jack" Spratt added, "The biggest job facing all of us in the construction industry is selling the American people on using facilities provided in the bill, not only for the purchase of new homes, but for home modernization, slum clearance and the prevention of urban blight."

In pointing to the opportunities the bill afforded Spratt said, "Through hard work and hard selling the construction industry has become not only the largest segment of our economy but the most active. The impetus the bill will give to the home building activities will help guarantee construction prosperity for many years to come, providing the leaders of the industry continue to plan and sell in an aggressive manner. The benefits to the material manufacturing members of the Producers' Council are incalculable."

From the point of view of the producers, Spratt felt that the most important features of the bill were the liberalization of the mortgage terms for the purchase of new and existing homes, the open-end mortgages for home modernization, the urban renewal provisions, and the rechartering of the Federal National Mortgage Association.

Commenting on each of the four provisions Spratt said, "Although the bill makes the purchase of homes easier for people in the middle and low income brackets, we must be prepared to do a big selling job to make these people want new and better homes. No longer can we count on the terrific post-war demand to keep the home building market strong.

"Modernization is a market virtually untouched. Active selling in this field is one of the best ways of preventing tomorrow's slums. Over 20 million of the nation's 45 million homes are a quarter of a century old. They suffer from a creeping depreciation rather than the planned obsolescence common to the products of other industries. The producers are vitally interested in the modernization program provided for in the bill.

"Although not all segments of the construction industry are completely pleased with the slum clearance and urban renewal sections of the bill, it is nevertheless the law with which we have to work. The Housing and Home Finance Agency Administrator, Albert M. Cole, has expressed confidence that the provisions are workable, and therefore we of the construction industry should pitch-in and see that the program is carried to the best possible conclusion.

"The rechartering of the FNMA with the provision for the eventual operation with private rather than government funds should prove invaluable in pro-

viding a stronger secondary mortgage market, with the result that the home buyers will find loans for homes easier to obtain.

"The bill also gives us renewed faith to continue our ever-increasing, ever-continuing research program. Since 1946, the construction industry has spent more time and money on research than had been spent in our entire history prior to that year."

Spratt concluded his remarks by saying that the housing bill would be undoubtedly one of the prime topics for discussion at the forthcoming 33rd Annual Convention of the Producers' Council in New York in September.

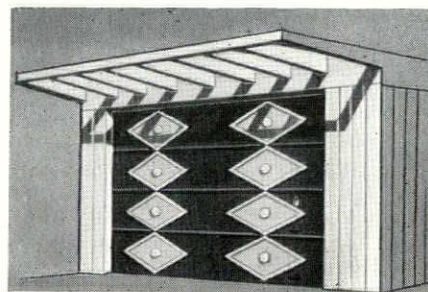
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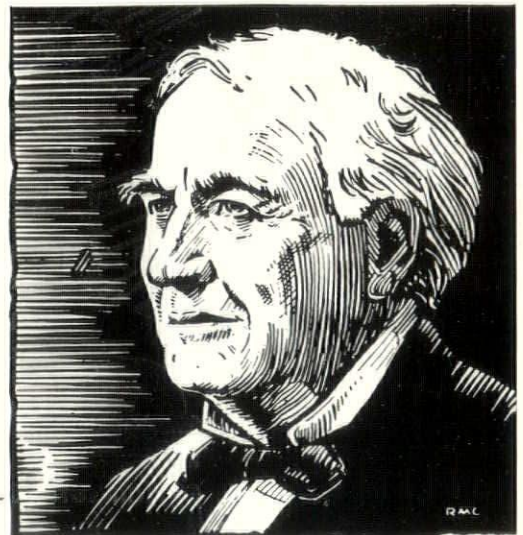
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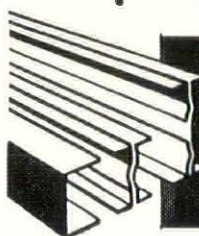
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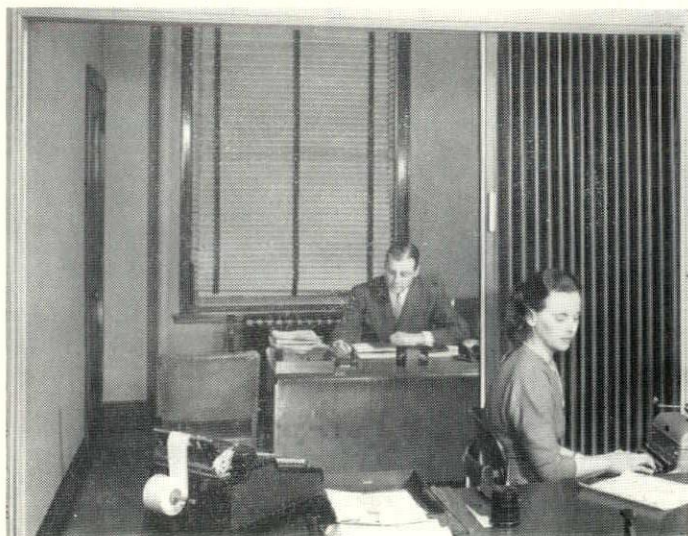
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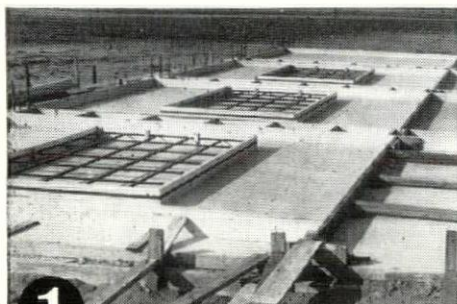
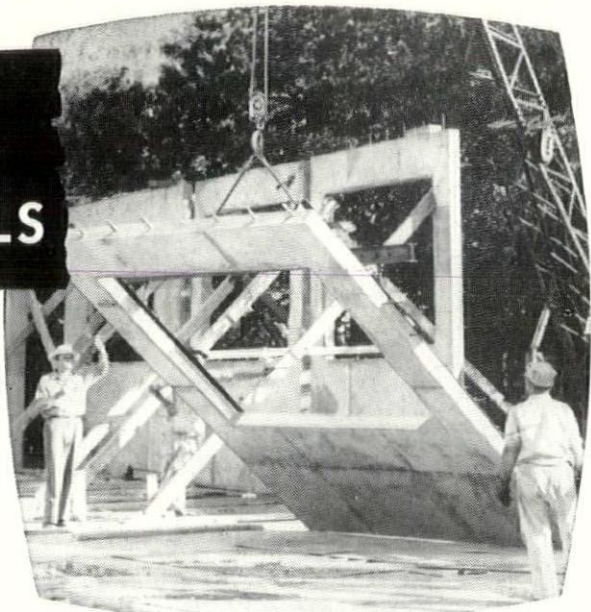
OCONTO, WISCONSIN





# How to build economical CONCRETE TILT-UP WALLS

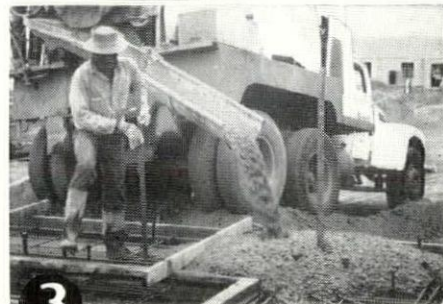
Tilt-up construction is a tested and proven method of building with reinforced concrete. It saves time, money and materials in erecting standard or individually designed buildings of one story or more. Tilt-up construction is easy and simple and eliminates most form-building and form-handling problems. Tilt-up structures are firesafe, decayproof, good looking, long lasting, easy to maintain. Here's how to build by the economical tilt-up method:



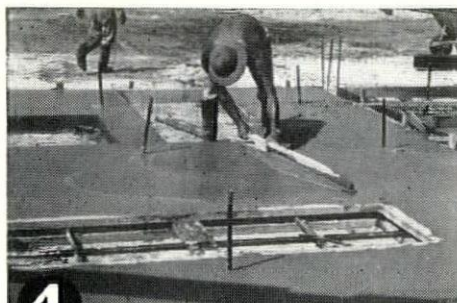
**1** After concrete floor is constructed, position edge forms and frames or forms for openings. Apply bond-preventative to floor.



**2** Place the required amount of reinforcing in the panel and be sure to provide suitable means to hold it in the proper position.



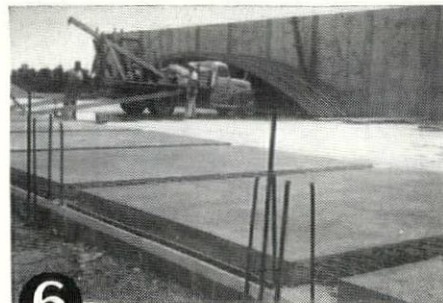
**3** Place concrete, using quality mix yielding durable walls. Use care to prevent honeycombing, especially along bottom edge.



**4** When concrete has partially hardened, trowel, float or brush the surface to obtain the kind of smooth or textured finish desired.



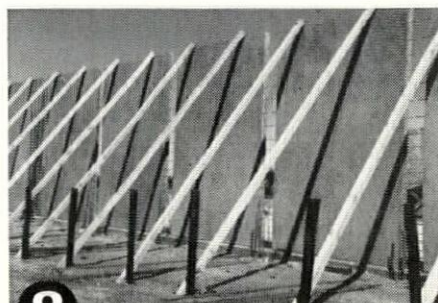
**5** Incorporate decorative designs before the concrete hardens. The illustration above shows workman adding a low-relief design.



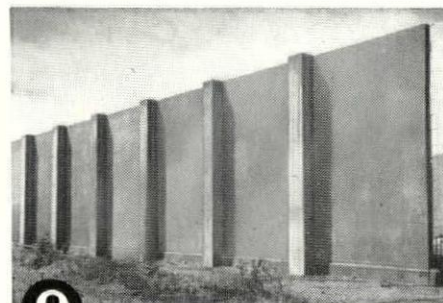
**6** Cure the panels until concrete has attained the desired strength. Then carefully remove all the edge and opening forms.



**7** With crane or hoist tilt the panels into position in wall. Grout joint between the wall and the floor to make it weathertight.



**8** Temporarily brace wall panels as shown before adding reinforcing and forms for the columns that will tie the wall together.



**9** Place the concrete in the column forms and allow it to cure properly. Then remove the forms and braces. Wall is now completed.

Write for free, 32-page bulletin entitled "Tilt-Up Construction." Distributed only in the U.S. and Canada.

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